

Application No.: 10/790902

Case No.: 59617US002

Remarks

Claims 1 to 33 are pending. No claims have been canceled. Claims 19 to 33 have been withdrawn from consideration. No claims are amended. No claims have been added.

§ 103 Rejections

Claims 1-18 stand rejected under 35 USC § 103(a) as being unpatentable over Lewandowski et al. (U.S. Published Appln. No. 2005/0070688, hereinafter U.S. '688). The rejection is traversed.

Briefly, Applicants claim a two-component composition comprising a first component oligomer, and a second component hydrophilic crosslinking agent. The first component comprising a plurality of polymerized monomer units having pendent hydrophilic poly(alkylene oxide) groups, and pendent photoinitiator groups. The second component comprising a hydrophilic poly(alkylene oxide) crosslinking agent having polymerizable, ethylenically unsaturated terminal groups.

U.S. '688 describes a two component composition comprising first and second component oligomers. The first component oligomer comprises a plurality of polymerized monomer units having pendent, free-radically polymerizable functional groups, and a plurality of polymerized monomer units having pendent, hydrophilic poly(alkylene oxide) groups. The second component oligomer comprises a plurality of polymerized monomer units having pendent, free-radically polymerizable functional groups.

Claim 1 may be distinguished from the reference first in the nature of the second component; the hydrophilic poly(alkylene oxide) crosslinking agent having polymerizable, ethylenically unsaturated terminal groups. Such a crosslinking agent has a structure represent by the formula of claim 2, and is described from page 18, lines 30 to page 20, line 5. The hydrophilic crosslinking agent may be exemplified by poly(ethylene oxide) di(meth)acrylate. Note the repeating oxygen in the polymer chain.

In contrast, U.S. '688 describes the second component oligomer as resulting from the constituent monomers recited in paragraphs 38 to 42. The first monomer, described as an ethylenically unsaturated monomer having pendent polymerizable groups (§ 39) is further exemplified in § 52. The "polar monomers" are represented at § 61. The "hydrophobic

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monomers are represented at ¶ 63. The “other monomers” are represented at ¶ 64-65. It is apparent that each of the constituent monomers, when polymerized, would yield an oligomer having a carbon-carbon polymer chain, in contrast to Applicant’s crosslinking agent, having oxygen atoms in the polymer chain. The reference neither teaches nor suggests Applicant’s crosslinking agent.

The Office Action correctly notes that a hydrophilic group may be incorporated into both of the first and second oligomers of U.S. ‘688, as described in reference ¶ 45. However the recited reference monomer is different than that of instant claim 1. Note that the structure of the reference hydrophilic monomer terminates in an R^2 group, which is defined as a H, a C_1 to C_4 alkyl group, an aryl group, or combinations thereof. In contrast, Applicant’s crosslinking agent, as described on page 18, line 32 to page 19, line 10, has two terminal ethylenically unsaturated “Z” groups. The reference monomer, having a single polymerizable group at one terminus, and an unreactive group at the other terminus, would not serve as a crosslinking agent, as two polymerizable groups are required.

Claim 1 may be further distinguished from U.S. ‘688 in the nature of the first component oligomer, which requires a pendent photoinitiator group. Such groups are incorporated into the instant first component oligomer with “polymerizable monomer units having pendent photoinitiator groups”. These monomers are described on page 9, line 19 to page 11, line 21. Such monomer units are neither taught nor suggested by U.S. ‘688.

The Office Action errs when it states that U.S. ‘688 that the reference first component oligomer has pendent photoinitiator groups, as asserted at page 4, lines 2-3. Both the first and second component oligomer of U.S. ‘688 have “pendent free-radically polymerizable functional groups” which may be subsequently crosslinking by the conventional photoinitiators described in reference ¶ 84. Again, incorporation of a photoinitiator into the reference oligomers is neither taught nor suggested.

It is incorrect to assert (as at page 4, second paragraph) that “[I]t would be obviousto omit the free-radically polymerizable pendent groups from the oligomer taught by Lewandowski et al. and their polymerizing function. One of ordinary skill would have been motivated by a reasonable expectation of success of providing a product having less crosslinking as a result”.

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Were one to omit the free-radically polymerizable pendent groups from the oligomer taught by Lewandowski, there would be no crosslinking possible, and therefore would defeat the purpose of the reference invention – to provide a crosslinkable composition. It is possible that the reference second component oligomer would react with itself, but the first and second component oligomers would be unable to crosslink, absent the free-radically polymerizable pendent groups of the reference first component oligomer.

Therefore, there is no motivation to omit the free-radically polymerizable pendent groups of the reference first component oligomer, and no motivation to substitute therefore Applicant's monomer units having pendent photoinitiator groups. There is further no motivation to substitute the reference second component oligomer for Applicant's hydrophilic crosslinking agent.

The rejection of claims 1-18 under 35 USC § 103(a) as being unpatentable over Lewandowski et al. (U.S. Published Appln. No. 2005/0070688) has been overcome and should be withdrawn.

Claims 2-18 each add additional features to claim 1. Claim 1 is patentable for the reasons given above. Thus, claims 2-18 are likewise be patentable.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested. Should claim 1 be found allowable, Applicants respectfully request rejoinder of withdrawn claims 19 to 26 under the procedures of M.P.E.P 821.04.

Respectfully submitted,

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Date

By: Kent S. Kokko
Kent S. Kokko, Reg. No.: 33,931
Telephone No.: 651-733-3597

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833